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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,810	01/29/2004	Edward J. Wallner	DP-308844	5548

7590 05/30/2006
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EXAMINER

PIPALA, EDWARD J

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/767,810

Applicant(s)

WALLNER, EDWARD J.

Examiner

Edward Pipala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 19-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/20/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to Applicant's restriction election received 3/20/06.

Applicant has elected the invention of Group I, claims 1-18 without traverse, and has cancelled claims 19-26. Accordingly, claims 1-18 are presently pending.

Information Disclosure Statement

The information disclosure statements filed 1/29/04 and 6/20/05 have been fully considered by the Examiner, as indicated by the accompanying initialed copies of Applicant's form PTO-1449. The citation of the European Search Report was crossed through because it is not considered to be a "prior art" type document.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 2, 7-11 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallner (US Pub. 2002/0183899 A1) in view of EP 1 227 010 A2 (supplied by Applicant).

With respect to independent claim 1, Wallner ('899) discloses vehicle rollover sensing in which a safing signal is generated in the circumstance that an anticipated

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overturn condition of the vehicle is detected. Wallner discloses doing so with or through the use of a pair of angular rate sensors (gyros) which are oriented -45 degrees and -135 degrees with respect to the longitudinal axis of the vehicle (i.e., at an angle offset from the longitudinal and lateral axis of the vehicle), as shown in figure 1 with respect to elements 14 and 16, and as taught in sections 0020 and 0021 of Wallner ('899).

Section 0021 of Wallner further discloses detecting vector components along or transverse to the longitudinal and lateral axis of the vehicle using of the offset positioned sensors, as well as control logic for receiving the sensed signals and generating a "safing" signal as a function of at least one of these lateral and longitudinal components (as disclosed more particularly in sections 0021 through 0034).

Wallner ('899) does not teach or disclose the use of accelerometers, but instead makes use of angular rate sensors instead of accelerometers, which are disclosed as being at an angle offset (-45° and -135°) from the longitudinal axis and the lateral axis of the vehicle.

European published patent application EP 1227010 A2 discloses the use of accelerometers as part of an apparatus and method of detecting vehicle rollover having a roll-rate switched threshold, and in which it is taught that the accelerometer (80) senses the vehicle acceleration in a direction offset from a front-to-rear axis of the vehicle and provides an acceleration signal indicative thereof.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used accelerometers as taught by EP 1227010 A2 within the vehicle rollover sensing and safing signal generating system of Wallner ('899), in that it would be essentially a simple substitution of accelerometers for the angular rate sensors (gyros) used by Wallner ('899), because both are in the same field of endeavor

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of detecting vehicle rollover and also because section 0004 of Wallner ('899) itself suggests that it is known in the art to use accelerometers for this purpose and in this same manner.

With respect to dependent claims 2 and 11, in which a second acceleration sensor is recited as being oriented in a second axis as an angle offset from the longitudinal axis and lateral axis of the vehicle, please note that Wallner ('899) already teaches or discloses the use of two sensors oriented in just such a manner and which are used essentially for the same purpose(s).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced both/each of the "acceleration rate sensors" of Wallner with actual accelerometers as taught by EP 1227010 A2 for the same reasons given in the rejection of claim 1 above.

With respect to claims 7-10 and 16-18, which recite processing a rollover discrimination signal as a function of the rollover discrimination signal and the safing signal so as to generate a vehicle overturn condition signal, as well as the use of an AND gate therefore (claims 7, 10 and 16), please see section 0018 of Wallner ('899) wherein generation of a rollover deployment signal is disclosed with respect to detected vehicle conditions, as well as sections 0022 through 0034 and figures 2, 4A and 4B which disclose filtering the individual signals prior to determining whether or not a rollover condition exists when the detected lateral or longitudinal components are compared with their respective threshold levels.

Claims 3-6 and 12-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Wallner ('899) and EP 1227010 A2 as applied to claims 1-2, 7-11 and 16-18 above, and further in view of van der Pol et al. (USPN 6,397,133 B1).

The combination of Wallner ('899) and EP 1227010 A2 provides for a vehicle rollover sensing apparatus in which first and second accelerometers are located on a vehicle at angles offset from the vehicle's longitudinal and lateral axis, and wherein lateral and longitudinal components of each of those accelerometer signals compared to thresholds and processed so as to generate a vehicle rollover output signal.

The above combination does not particularly provide for the recited dual-axis accelerometer (claims 3 and 12), that this dual-axis accelerometer is of a low-g variety (claims 4 and 13), nor that the first and second accelerometers are substantially orthogonal (claims 5 and 14) or oriented at an angle of approximately 45 degrees relative to the longitudinal axis of the vehicle (claims 6 and 15).

The United States patent to van der Pol et al. discloses a vehicle rollover safety system which teaches the use of a dual-axis G-Force and tilt sensors, where col. 7, ll. 2-14 thereof teach detection of accelerations in the longitudinal and lateral directions as part of a rollover calculator for a vehicle.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the teaching and use of a dual-axis accelerometer of van der Pol et al., within the context of the above combination as a replacement for or in addition to the use of accelerometers as taught by EP 1227010

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A2, because all three references are concerned with detecting vehicle rollover using by detecting and processing longitudinal and lateral components of a rollover event.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Pipala whose telephone number is 571-272-1360. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ejp



MATTHEW LUU
PRIMARY EXAMINER